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Mesocorynespora sinensis gen. & sp. nov. from southern China

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Abstract—A new anamorphic genus and species, *Mesocorynespora sinensis* collected on decaying culms of bamboo in China, is described and illustrated. The fungus is distinguished by short, unbranched, clavate conidiophores with monotretic, conidiogenous cells that produce solitary, acrogenous, obclavate, euseptate conidia. A key to *Mesocorynespora* and morphologically similar genera is provided.

Key words—asexual fungi, hyphomycetes, taxonomy

Introduction

Lushan Mountain, located in the northern part of Jiangxi Province, China, covers approximately 302 km^2 and exhibits a unique geography with complex terrains and unusual climate. The mountain's distinctive vegetation has favored the survival and multiplication of various microbial species, yet only relatively little information has been published on saprobic hyphomycetes recorded in China (e.g., Ma & Zhang 2015, Ma 2016, Ma & al. 2016, Xu & al. 2017, Ai & al. 2019). During our continuing surveys of asexual fungi in this region, an interesting fungus was collected that differed remarkably from all previously described hyphomycetes (Seifert & al. 2011). Thus, it is described here as a new genus and species.

Taxonomy

Mesocorynespora Jian Ma, X.G. Zhang & R.F. Castañeda, **gen. nov.**

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Differs from *Solicorynespora* by its short, determinate, clavate conidiophores and multi-euseptate conidia; and from *Corynespora* by its euseptate conidia.

Type species: *Mesocorynespora sinensis* Jian Ma & al.

Etymology: Greek, *meso-* meaning middle- + Latin, -*corynespora*, referring to the genus *Corynespora*.

Conidiophores short, single or in groups, clavate, unbranched, brown. Conidiogenous cells monotretic, integrated, terminal, clavate, determinate. Conidial secession schizolytic. Conidia solitary, acrogenous, dry, obclavate, multi-euseptate.

Mesocorynespora sinensis Jian Ma, X.G. Zhang & R.F. Castañeda, **sp. nov.** Figs 1, 2

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Differs from *Solicorynespora* spp. by its short, determinate conidiophores with multi-euseptate conidia, and from *Corynespora* spp. by its euseptate conidia.

Type: China, Jiangxi Province: Lushan Mountain, on decaying culms of bamboo, 9 November 2014, J. Ma (**holotype**, HJAUP M0296).

Etymology: refers to China where the fungus was collected.

Colonies on natural substrate effuse, brown to dark brown. Mycelium superficial and immersed, composed of branched, septate, pale brown to brown, smooth-walled hyphae. Conidiophores short, single or in groups, erect, straight or flexuous, clavate, unbranched, brown, smooth, 1–3-septate, 25–40 × 3.5–5 µm. Conidiogenous cells monotretic, integrated, terminal, determinate, clavate, brown, smooth, 9–14.5 × 5–6.5 µm. Conidial secession schizolytic. Conidia solitary, dry, acrogenous, obclavate, smooth, brown to dark brown, rounded and golden yellow at the apex, truncate at the base, 20–35-euseptate, 72–171 ×13.5–16 µm, tapering to 7–10.5 µm diam. at the apex, 4–5 µm diam. at the base.

Discussion

Mesocorynespora sinensis is unique in having short, clavate, unbranched conidiophores, and solitary, acrogenous, obclavate, multi-euseptate conidia

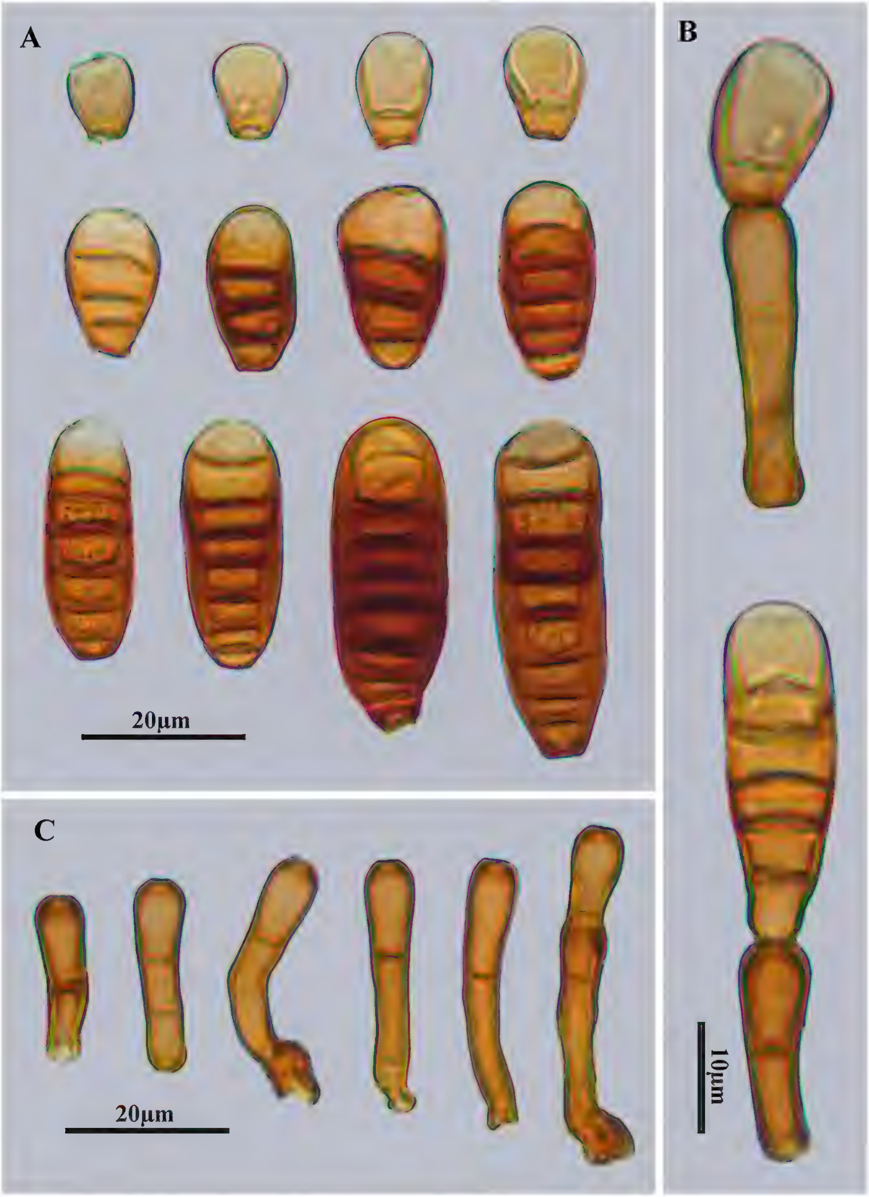

Fig. 1. *Mesocorynespora sinensis* (holotype, HJAUP M0296).
A. Developing conidia; B. Conidiophores with developing conidia;
C. Conidiophores, and conidiogenous cells.

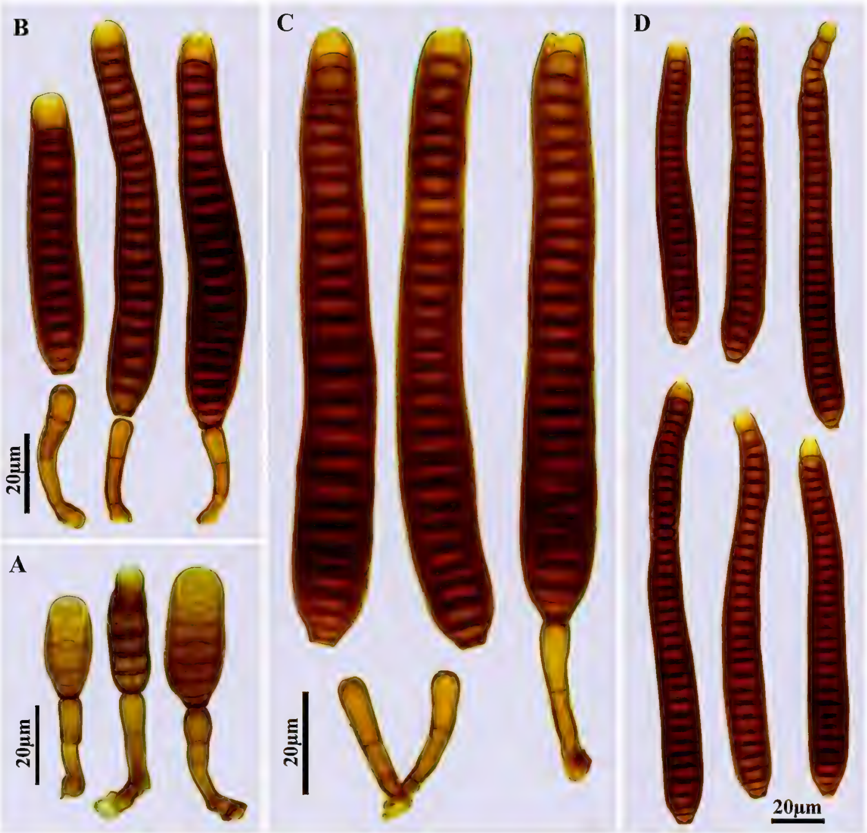

Fig. 2. *Mesocorynespora sinensis* (holotype, HJAUP M0296).
A–C. Conidiophores, conidiogenous cells, and conidia; D. Conidia.

that secede schizolytically from the monotretic, integrated, terminal, determinate conidiogenous cells. We initially thought of assigning it to the genus *Solicorynespora* R.F. Castañeda & W.B. Kendr. (Castañeda-Ruíz & Kendrick 1990), but *Solicorynespora* species have long, cylindrical to obclavate conidiophores with percurrently extending conidiogenous cells and conidia with fewer septa.

Several other genera including *Corynespora* Güssow, *Corynesporella* Munjal & H.S. Gill, *Hemicorynespora* M.B. Ellis, *Corynesporopsis* P.M. Kirk, and *Corynesporina* Subram. (Güssow 1905, Munjal & Gill 1961, Ellis 1972, Kirk 1981, Gams & al. 2009) have the same conidiogenesis as *Mesocorynespora*, but *Mesocorynespora* differs in having clavate, determinate conidiogenous cells formed from short, clavate, unbranched conidiophores; and differs further from *Corynespora*, *Corynesporella*, and *Corynesporina* by its euseptate conidia and from *Corynesporopsis* by its solitary conidia. Conidia in *Hemicorynespora* are 0–1-septate, an obvious difference from *Mesocorynespora.*

Key to *Mesocorynespora* and morphologically similar genera

1. Conidiophores short, conidiogenous cells without percurrent extension .... *Mesocorynespora*
1. Conidiophores long, conidiogenous cells with percurrent extension 2
2. Conidia aseptate or euseptate 3
2. Conidia distoseptate 5
3. Conidia catenate .... *Corynesporopsis*
3. Conidia solitary 4
4. Conidia aseptate or with a single septum .... *Hemicorynespora*
4. Conidia two- to pluriseptate .... *Solicorynespora*
5. Conidiogenous cells formed as terminal and lateral branchlets on the conidiophores .... *Corynesporella*
5. Conidiogenous cells integrated, terminal on the conidiophores 6
6. Conidia formed single or in acropetal chains .... *Corynespora*
6. Conidia solitary and in basipetal chains .... *Corynesporina*

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